

ECON 3535: Natural Resource Economics

Fall 2026 | MWF 1:25-2:15 in Hellems E1B10

Instructor: Steve Miller | steve.j.miller@colorado.edu

Office Hours: Tues. 3-4p.m. in SEEC N292B or by appointment

Course Overview

In this course, we will explore the links between natural resources and economic systems and learn to think about natural resource challenges through the lenses of incentives and tradeoffs. We will consider natural resource use from both a normative perspective (where/when/how *should* we use them) and a positive one (where/when/how *do* people use them), bridging the two by thinking about how markets and institutions can shape behavior and resource use. We will also discuss links between natural resources and other major socioenvironmental challenges (e.g., climate change, energy, sustainable development).

Learning objectives

- Understand fundamental economic concepts and tools to the study of natural resources.
- Apply those concepts and tools to the study of several resources: land, minerals, water, fisheries, forests, and biodiversity
- Evaluate alternative policy or program interventions using economic frameworks
- Summarize and analyze complex natural resource challenges in terms of market failures, tradeoffs, and incentives.

Course Organization

Our course will tentatively follow the following sections and schedule, subject to change:

- Part 1 (weeks 1-2; Aug 21-28): Big picture, part 1: objectives, problems, and a suite of solutions
- Part 2 (weeks 3-5; Aug 31-Sep 18): Analysis fundamentals
- Part 3 (Weeks 6-8; Sep 21-Oct 9): Non-renewable(ish) resources

The midterm exam will be on Monday, October 12 in class (1:25-2:15pm).

- Part 4 (Weeks 9-13; Oct 12-Nov 13): Renewable resources
- Part 5 (Weeks 14-15; Nov 16-Dec 4): Big picture, revisited: links between natural resources and energy, climate, growth, trade, and finance.
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The policy brief will be due on Friday, November 20 at 5:00 p.m.

The final exam will take place on Thursday, December 10 from 1:30-4:00 p.m.

Readings

There is no required textbook. Instead, readings will come from peer-reviewed studies, popular press articles, and other online materials, all posted on Canvas. If you would benefit from textbook-style treatment of the course material, here are some suggested supplementary resources:

- Tietenberg & Lewis. *Environmental and Natural Resource Economics*.
- Field, Barry C. *Natural Resource Economics, an Introduction*.
- Harris & Roach. *Environmental and Natural Resource Economics: A Contemporary Approach*.

Grading/Evaluation

Exams: 50%

We will have two exams (midterm, final) weighted at 25% each. The final is not cumulative.

- The midterm will be structured as a two-stage exam. You will first complete a component individually in class, which will be a closed-book exam. You will then be asked to participate in an asynchronous component in which you answer similar questions to the individual component but should work with a group. The individual component will be worth 20% of your overall grade (80% of the exam grade), and the group component will be worth 5% of your overall grade (20% of the exam grade).
- The final exam will be a traditional, closed-book, and in-class exam.

Policy brief: 20%

You will be asked to write a 3-page policy brief analyzing a natural resource challenge of your choosing from an economic perspective. These should be local issues (not global or national) but may be local to a place of your choosing (Boulder, your hometown, an area you are interested in). You will be evaluated on your application of course concepts and development of your ideas; writing will play a secondary role in evaluation.

Assignments: 30%

Approximately every 2 weeks, you will complete a short assignment to practice applying concepts from the course. These will test understanding of core concepts, interpretation of graphs as they relate to concepts, basic mathematical analysis, and application of concepts from the class to natural resource issues in the news. These will be graded on completion, but you should take them seriously as they are your primary opportunity to practice for the exams and policy brief.

Attendance/Participation: Is not directly graded. But the more you show up and participate, the more you'll learn, and the better you'll do on graded components. Reading slides won't cut it.

Late assignments: Assignments submitted late incur a penalty of 2 percentage points per hour, assessed automatically based on Canvas timestamps. Assignments submitted 50 hours late (or more) thus receive a zero. Leave time to submit your assignments and this won't be an issue.

Campus-wide policies we will abide by

Honor Code

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the [Honor Code](#). Violations of the Honor Code may include but are not limited to: plagiarism (including use of paper writing services or technology [such as essay bots]), cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. Understanding the course's syllabus is a vital part of adhering to the Honor Code.

All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution: StudentConduct@colorado.edu. Students found responsible for violating the Honor Code will be assigned resolution outcomes from Student Conduct & Conflict Resolution and will be subject to academic sanctions from the faculty member. Visit [Honor Code](#) for more information on the academic integrity policy.

Accommodation for Disabilities, Temporary Medical Conditions, and Medical Isolation

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the [Disability Services website](#). Contact Disability Services at 303-492-8671 or DSinfo@colorado.edu for further assistance. If you have a temporary medical condition, see [Temporary Medical Conditions](#) on the Disability Services website.

If you have a temporary illness, injury or required medical isolation for which you require adjustment, please contact me via email as soon as possible so we can make arrangements. Do not wait until you are able to return to class.

Accommodation for Religious Obligations

Instructional faculty members must make every reasonable effort to accommodate all students who have conflicts with scheduled exams, assignment deadlines or required attendance due to a religious observance. Whenever possible, students must notify the instructional faculty member at least two weeks in advance of the expected exam, assignment deadline, or attendance conflict to request an accommodation for religious observance. If the start date of the course is less than two weeks before the date of requested accommodation, students must notify the instructional

faculty member on the start date of the course. See the [Student Academic Accommodations for Religious Observances Policy](#) for more information.

In this class, please email me within the first two weeks of the semester if your religious obligations conflict with course obligations (e.g., exams, assignment due dates). We will come up with an alternate plan that works for you. <https://www.colorado.edu/compliance/student-academic-accommodations-religious-observances-policy>

Student Names and Pronouns

CU Boulder recognizes that students' legal information does not always align with how they identify. If you wish to have a name other than your legal name appear on your instructors' class rosters and in Canvas, or if you wish to choose pronouns to appear on your instructors' class rosters and in Canvas, visit the [Registrar's website](#) for instructions on how to change your personal information in university systems.

Classroom Behavior

Students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote, or online. Failure to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, marital status, political affiliation, or political philosophy.

Additional classroom behavior information

- [Student Classroom and Course-Related Behavior Policy](#).
- [Student Code of Conduct](#).
- [Office of Institutional Equity and Compliance](#).

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation

CU Boulder is committed to fostering a productive and welcoming learning, working, and living environment. University policy prohibits [protected-class](#) discrimination and harassment, sexual misconduct (harassment, exploitation, and assault), intimate partner abuse (dating or domestic violence), stalking, and related retaliation by or against members of our community on- or off-campus. Denial of an approved accommodation for disability, religious observance, or pregnancy or pregnancy related medical conditions may be discriminatory.

The [Office of Institutional Equity and Compliance \(OIEC\)](#) addresses these concerns, and individuals who have been subjected to misconduct can contact OIEC at 303-492-2127 or email OIEC@colorado.edu. Information about university policies, [OIEC reporting options](#), and [OIEC support resources](#) including confidential services can be found on the [OIEC website](#).

Faculty and graduate instructors are required to inform OIEC when someone discloses misconduct regardless of when or where it occurred. This is to ensure that those impacted receive outreach from OIEC about resolution options and support resources. To learn more about reporting and support options for a variety of concerns, visit the [Don't Ignore It page](#).

Mental Health and Wellness

The University of Colorado Boulder is committed to supporting students' mental health and overall wellbeing. If personal, academic, or emotional challenges are affecting your wellbeing or success, [Counseling and Psychiatric Services \(CAPS\)](#), is here to help. CAPS offers counseling, referrals, psychiatric care, crisis support, and much more. Visit CAPS in the C4C, or call (303) 492-2277, 24/7.

Acceptable Use of AI in This Class

AI is no doubt a useful tool, including for thinking through natural resource economics issues, but it should not replace your brain. With that in mind, here is our class policy on acceptable use of AI:

You **may not** use AI tools:

- On any part of the exams.
- To solve mathematical or graphical problems on your assignments.
- To write for you, whether on policy briefs or our periodic assignments.

You **may** use AI tools:

- To summarize or provide alternate explanations of concepts from class, so that you understand them better and can perform better on assessments.
- To help you understand solutions to assignments *after* the assignment is due.
- To help you identify useful primary sources that you then go read when forming your opinion about current events for assignments, putting together your policy briefs, etc. Think of it as a research assistant, but a not-always-reliable one. You must go verify and learn.

In short, you may use AI to strengthen your brain; you may not use AI to replace your brain.

If you have any questions about whether what you are doing is an acceptable use of AI, please come talk to me or send me an email.